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The Ohio Cooperative Corn Performance Tests

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Cooperating with

49 Ohio seed growers and county seed corn associations, the Division of Cereal Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture, and the Agricultural Extension Service, The Ohio State University

OHIO AGRICULTURAL EXPERIMENT STATION
WOOSTER, OHIO

Adaptation Areas for Corn Hybrids in Ohio (Revised January 1942)

By the Agricultural Extension Service of The Ohio State University, the Ohio Agricultural Experiment Station, and the Bureau of Plant Industry of the United States Department of Agriculture.

Refer to this map to locate the adaptation areas indicated in the list of tests and cooperators and in the table headings.

The areas, indicated by Roman numerals, are arranged with regard to climatic, soil, and corn usage variations. In general, the effective corn growing season is shortest in Area 1 and increases in length as the area numbers are higher. Wide variations exist, however, within areas, and these local variations must be considered in choosing adapted hybrids for specific farms.

The adaptation groups, indicated by letters, refer to maturity requirements of corn strains. The letters and the open-pollinated corn with which each group approximately matures are:

M—Medina Pride
K—Killbuck Creek varieties
W—Woodburn
C—Clarage
L—Lancaster Sure Crop
R—Reid
S—Scioto White

THE 1941 OHIO COOPERATIVE CORN PERFORMANCE TESTS

G. H. STRINGFIELD, R. D. LEWIS, AND H. L. PFAFF[1] [2]

INTRODUCTION

The results presented here constitute the fourth annual report of the Ohio Cooperative Corn Performance Tests. For the previous reports, see Ohio Agricultural Experiment Station Agronomy Mimeograph No. 50, 1938; Special Circular No. 59, 1939; and Special Circular 61, 1941 (reporting 1940 results).

Preparations were made for 60 tests in 1941, 49 conducted by farmers or seed growers working with their county agricultural agents, and 11 on Experiment Station or County Experiment Farms. One cooperator was unable to get his test planted, and four tests were discarded because of variable growth conditions within the test fields. Data on acre yields of grain and other plant responses are reported from 55 tests in 52 counties. To date, this is Ohio's most extensive series of tests designed to compare the field performance of commercial corn strains.

The growing season was characterized by generally favorable weather at planting time and abundant moisture during the early growing season. Mild to severe drought developed over much of western Ohio and in local eastern areas in July and August. Yields were reduced much by drought in the Allen, Auglaize, Ashland, Clermont, Henry, Meigs, Mercer, and Paulding County tests.

It cannot be assumed that a drought period will lower the yields of all strains uniformly. Some will tolerate drought better than others, and, because of differences in seasonal requirements and maturity, some may be favored by partial escapement. Drought and other variables in conditions of growth explain many of the differences in relative performance of adapted corn strains in different tests.

Conditions for drying were good during September and fair in October. A state-wide gale on September 25 accounted for a large part of the stalk breakage.

Heavy infestation by the European corn borer lowered the average yields in Van Wert, Paulding, Henry, and Putnam Counties. Like drought, the corn borer also takes a definitely heavier toll of some strains than others. Experience with many corn strains growing under conditions favoring heavy corn borer infestation is resulting in the selection of hybrids which will withstand corn borer attack much better than the strains now in wide use.

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[2]The writers are much indebted to the many farmers and seed growers who generously contributed land, fertilizers, labor, and personal efforts in conducting these tests; to the county agricultural agents for help with arrangements and other details; and to the assisting personnel at the Experiment Station, The Ohio State University, and on the outlying State and County Experiment Farms for invaluable help in harvesting, computations, typing, and other details.

Leaf blight attacked all the plots in the southern half of the State with more or less severity. The tests in Pickaway, Fairfield, Madison, Belmont, Fayette, Ross, and Highland Counties were heavily infected, and the plot yields in those counties are presumed to have been affected by the blight. Until more is known, however, about the leaf blight diseases and the conditions of plant growth affecting their development and spread, it will not be possible to evaluate definitely their influence on grain yields. The general occurrence of leaf blights in recent years has made it possible to select less susceptible strains, and, unless unpredictable events arise to negate present indications, it will soon be possible to reduce leaf blight infection through the use of these strains.

The criticism is occasionally made that most of the performance tests are conducted on fields so highly productive that the results may not apply to the greater part of cornlands. When one notes that the average Ohio corn yield in 1941 was less than 50 bushels (not baskets) per acre, the criticism may seem valid, but even a 50-bushel corn yield in any but the worst of seasons is inexcusably low. Ohio land that can be made to produce no more is not corn ground. With the use of good hybrids, good rotations, good soil management, and efficient cultural practices, Ohio corn farmers should strive for 100 bushels or more of dry shelled grain per acre in the better seasons. Actually, some of the test plots, notably those in Highland, Perry, Warren, Defiance, Licking, and Ashland Counties, were planted deliberately on the grower cooperators' thinner fields. None of the tests on the Experiment Station or County Experiment Farms were on fields that are naturally highly productive for their localities.

The disparity between the yields reported here and average farm yields is not entirely an expression of different fertility levels. The nearly perfect stands in the official tests and the slight upward adjustments for subnormal stands account for part of it.

It is true that the relative responses from a collection of corn strains will be measurably different on fertile soil than on poor soil, but should not the poor soil problem be handled by methods already known for soil improvement rather than by the encouragement of poor farming through developing corn hybrids for poor soil?

CORN STRAINS TESTED

Table 1 shows the number of strains tested and a classification of them. Forty of the new Ohio experimental hybrids were tested as candidates for immediate expansion as commercial certified hybrids. Selection for such exalted positions, however, is not based upon these tests alone. Results in previous seasons and the observations and judgment of many farmers who grew these hybrids in 1940 and 1941 also are considered. Ten of them have been recommended to the Ohio Seed Improvement Association for immediate certification. They are:

Ohio M20
Ohio K24
Ohio W46
Ohio W54
Ohio C28
Ohio C38
Ohio C48
Ohio C76
Ohio C88
Ohio L86

Several others are likely candidates for certification next year.

TABLE 1.—Classification of the material included in the 1941 Ohio Cooperative Corn Performance Tests

Material	Corn strains	Entries
New Ohio experimental hybrids	61	674
Experimental hybrids from U. S. Department of Agriculture and other experiment stations	12*	43
Ohio certified hybrids	14	206
Other certified hybrids	6	51
Privately controlled hybrids	11†	60
Open-pollinated varieties	8	66
Totals	112	1,100

*Includes one Indiana hybrid, two Iowa hybrids, and nine U. S. hybrids.
†Not including one privately controlled certified hybrid.

The 14 Ohio certified hybrids included 4 developed entirely or in part in other states but certified in Ohio.

The term "privately controlled hybrid" as used here means a hybrid involving one or more inbred lines kept under the control of a private company, or a hybrid whose pedigree is not made public by the seed producer. A fee of $18 was charged for the entrance of a privately controlled hybrid in a group of three or more tests.

TEST GROUPS

The 60 tests were divided into 13 test groups. The groups of tests were lettered roughly in the order of the effective lengths of growing season in the areas where the groups were placed. Thus, Group A was in the area of shortest effective growing season, and Group P was in the area of longest effective growing season. Originally, each group of tests was planned to include not less than 3 nor more than 6 tests of 20 entries each. The tests of a group each contained the same 20 entries, and all were located within an area varying only slightly in length of growing season.

CONTROL STRAINS

It is not possible, by repetition of these small tests as a whole, to compare directly each strain with every other strain and at the same time provide for simple summary tables. Some strains will have to be compared by noting how each performed relative to one or more "control" strains. The 1941 control strains were the same as in previous seasons, and they are listed below:

TEST GROUP	CONTROL STRAINS
A	Ohio M 15 and Ohio K23
B and C	Ohio K35 and Ohio W17
D and E	Ohio W17 and U. S. 65
F and G	U. S. 65
H and K	Iowa 939 and U. S. 44
L, M, and N	U. S. 44 and U. S. 13
P	U. S. 13 and U. S. 102

EXPERIMENTAL PROCEDURE

The 20 entries in a test were compared in 2- by 10-hill plots replicated 5 times and laid out in a modified Latin square of 5 rows (20 plots side by side) and 5 columns (4 plots wide by 5 plots long) at right angles to the rows. Each entry was placed at random once in each row and once in each column.

Planting arrangements and seed packets were sent to the cooperators from the Experiment Station. The cooperators were not given the identification of the strains until after September 1.

In planting, six seeds were dropped in each hill in two "jabs" of three each with specially made hand planters. Stands later were thinned to as nearly three plants per hill as possible. Cultural and fertilizer treatments were uniform over a given test. Marginal plots were given normal competition by border rows.

The mid-date of silking was estimated for each plot in 33 tests. The instructions were to visit the planting on alternate days during the flowering period and to count and record the number of plants in silk for each plot in which a third or more plants were in silk, but to make only one record for each plot. Silking dates were computed, using Meyers'[3] method, for those tests where the instructions were executed to the satisfaction of the Experiment Station.

The number of plants lodged because of failure of their roots to hold them erect, and the number of plants broken below the ear were counted just before harvest.

A representative of the Experiment Station or State University supervised the harvesting of each test. The ears from each plot were weighed and recorded in pounds and tenths. A grain sample for a determination of moisture content was taken from each plot by shelling two rows of kernels from each ear harvested from four hills, e. g., the first and fifth hills of the first plot row and the third and seventh hills of the second plot row. The samples were placed at once in moistureproof bags and promptly delivered by express or car to the University or the Experiment Station for determinations of the moisture content of grain.

Acre yield and dry matter content of the ear corn at harvest were computed from the field weights of ear corn and the moisture content of the grain with the aid of a table prepared by the Iowa Agricultural Experiment Station. This table is based on a curve showing the distribution of moisture between the grain and cob in ear corn ranging in moisture content from 10 to 40 per cent. The curve was computed from a large number of determinations made in Iowa. The acre yields are reported in terms of shelled grain with 15½ per cent of moisture. This method of computing acre yields ignores strain differ-

[3]Meyers, M. T. 1930. Determining date of silking in experiments with corn. Journal of the American Society of Agronomy 22: 280-283, illus.

ences in shelling percentage. It requires much less labor, however, than methods which involve the determination of shelling percentage. Comparisons made by the Ohio Station have shown that it gives practically the same results as the more laborious methods.

Plots having less than 80 per cent of a normal stand were discarded, and if a plot stood adjacent to a stand of less than 80 per cent, the row next to the thin stand was discarded. Aside from these discarded plots, field weights were corrected to the expected weights at normal stands. The correction factors were computed from 21 years of Wooster data on yield in relation to stand.

INTERPRETATION OF THE DATA

All yield data were analyzed statistically by using Fisher's[4] analysis of variance. A figure labeled "significant difference" is given at the foot of each yield column. Unless the yields of two strains differ by as much as the significant difference, or more, little confidence can be had that one was really superior to the other under the conditions of that test or group of tests. A yield difference as great as the significant difference would be expected once in 20 comparisons of two strains of equal yielding capacity as a result of soil differences and other random variations in the test. It follows that unless strains do differ by at least as much as the significant difference, the odds favoring an inherent superiority of either strain are poorer than 19 to 1. The odds diminish rapidly when the differences are smaller.

One of the items which make it difficult to evaluate corn strains is that they may not respond alike to fluctuations in environment. Two strains may differ little in one location but much in another; or one may be superior in one location but inferior in another. Thus, strain A may be slightly more productive than strain B in one test but much more productive in another; or strain A may be more productive than strain B in one test, less productive than strain B in another. This differential response to environments was probably operating within all the maturity groups in 1941. In statistical jargon, such a differential response is called "strain × location interaction." Its influence in adding to the variation in yield test results can be isolated, and its significance can be stated in terms of odds. At the foot of each table it is stated whether this interaction is "not significant" (odds are less than 19 to 1 that a measurable interaction was in operation), is "significant" (odds are 19 to 1 or higher that it was operating), or is "highly significant" (odds are 99 to 1 or higher that it was operating). Differences in time, whether in season or merely in planting date, may influence the order of yields or other measures between strains as much as differences in location.

The necessary difference for significance as given for the average yields of the tests of any one group is valid only for a combination of different growing conditions very similar to that sampled in the table, because the variance due to the strain × location interaction was eliminated before the necessary difference was computed. If an attempt were made to arrive at a necessary difference for group averages which would apply to random locations, the variance due to interaction could not be eliminated, and the sampling of many more locations, seasons, planting dates, and cultural practices would be required.

[4]Fisher, R. A. 1932. Statistical Methods for Research Workers. Fourth Edition. Oliver and Boyd.

List of tests and grower cooperators

Test No.	Adaptation area	Test group	County	Cooperating group	Grower cooperator	Address
601	1	A	Ashtabula		John R. Brown	R. 1, Austinburg
602	1	A	Trumbull		Trumbull Co. Exp. Farm	Cortland
603	1	A	Mahoning		Mahoning Co. Exp. Farm	Canfield
604	1	A	Summit	Summit-Portage Co. Hybrid Corn Growers	Howard M. Call	R. 3, Kent
605*	1	A	Medina	Medina Co. Hybrid Corn Growers Association	E. T. and A. R. Clapp	R. 2, Spencer
606	2	B	Ashland	Ashland Co. Hybrid Corn Growers	E. S. Spotts	R. 5, Wooster
607	2	B	Richland	Richland Co. Hybrid Corn Growers	L. R. Clever	R. 2, Shiloh
608	2	B	Wayne		Ohio Agr. Exp. Sta.	Wooster
609	4	B	Tuscarawas	Tuscarawas Co. Hybrid Corn Growers	Geo. B. Johnson	R. 1, Dover
610	3	B	Williams	Williams-Defiance Hybrid Corn Growers Association	Paul Smith	R. 2, West Unity
611	4	C	Knox	Knox Co. Hybrid Seed Corn Producers	Smith Pealer	R. 1, Mt. Vernon
612	4	C	Jefferson	Jefferson Co. Hybrid Seed Corn Producers	J. C. Henderson	R. 1, Rayland
613	4	C	Coshocton	Coshocton Co. Hybrid Seed Corn Producers	Chester C. Pew	R. 3, Coshocton
614	4	C	Union	Union Co. Hybrid Seed Corn Producers	Elmer Rausch	R. 1, Plain City
615	5	C	Defiance	Williams-Defiance Hybrid Corn Growers Association	W. E. Connelly	Edgerton
616	4	D	Erie	Erie Co. Certified Hybrid Seed Corn Growers Association	Fries Estate Farm, Carl Greinig, Mgr.	R. 2, Huron
617	4	D	Wyandot	Wyandot Co. Hybrid Corn Producers	L. Roy Schoenberger	R. 2, Nevada
618*	4	D	Marion	Marion Co. Hybrid Seed Corn Producers	Melvin Kennedy	Martel
619	4	D	Allen	Allen Co. Hybrid Seed Corn Producers	Jesse Vandermark	R. 3, Lima
620	4	D	Shelby	Shelby Co. Corn Hybrid Improvement Association	L. V. Ward	R. 3, Sidney
621	2	E	Huron	Huron Co. Hybrid Corn Growers	W. F. Porter & Sons	R. 2, New London
622*	4	E	Hardin	Hardin Co. Hybrid Corn Growers	Bosse Bros.	R. 3, Ada
623	4	E	Auglaize	Auglaize Co. Hybrid Seed Corn Producers	Paul Rhodeheffer	R. 3, St. Marys
624	4	E	Mercer	Mercer Co. Hybrid Corn Growers Association	A. A. Fishbaugh	R. 3, Celina
625	4	E	Champaign	Champaign Co. Hybrid Corn Growers	F. N. Johnson & Son	R. 1, West Liberty
626	4	F	Seneca	Seneca Co. Hybrid Seed Corn Growers Association	Milo Saul	R. 5, Tiffin
627	5	F	Wood	Wood Co. Hybrid Corn Growers	Alfred A. Robertson	R. 2, Perrysburg
628	5	F	Hancock	Hancock Co. Hybrid Seed Corn Group	Wilbur Creighton	R. 5, Findlay
629†	5	F	Paulding	Paulding Co. Hybrid Corn Growers	Paul O. Eichling	R. 2, Paulding
630	5	F	Van Wert	Van Wert Corn Hybrid Association	Marsh Foundation, W. G. Weigle, Mgr.	Van Wert

List of tests and grower cooperators—continued

Test No.	Adaptation area	Test group	County	Cooperating group	Grower cooperator	Address
631	5	G	Henry		Northwestern Exp. Farm	Holgate
632	5	G	Paulding		Paulding Co. Exp. Farm	Paulding
633	5	G	Putnam	Putnam Co. Corn Hybrids Association	Jasper Pope & Sons	R. 3, Ottawa
634	5	G	Lucas	Lucas Co. Hybrid Corn Growers	W. N. Woods & Son	Maumee
635	5	G	Sandusky	Sandusky Co. Hybrid Corn Growers	Gries & Bloom, and Floyd Damschroder	R. 4, Fremont R. 2, Gibsonburg
660	5	G	Fulton	Fulton Co. Hybrid Corn Growers	John Neuenschwander	Wauseon
636	4	H	Belmont		Belmont Co. Exp. Farm	St. Clairsville
637*	4	H	Muskingum	Muskingum Co. Hybrid Corn Growers	T. F. Prosser	R. 1, Zanesville
638	4	H	Licking	Ohio Hybrid Seed Corn Producers	J. E. Van Fossen	Croton
639	6	H	Miami		Miami Co. Exp. Farm	Troy
640	6	H	Clark	Clark Co. Hybrid Seed Corn Producers	W. N. Scarff's Sons	R. 3, New Carlisle
641	4	K	Perry		Ralph Yost	Thornville
642	6	K	Fairfield	Fairfield Co. Hybrid Corn Association	Webb S. Krout	R. 5, Lancaster
643	6	K	Franklin	Franklin Co. Hybrid Seed Corn Producers	W. W. Wright	R. 1, Lockbourne
644	6	K	Madison	Madison Co. Hybrid Seed Corn Producers	Madison Co. Exp. Farm	London
645	6	K	Darke	Darke Co. Seed Improvement Association	Grover Miller	R. 3, Greenville
646	6	L	Preble	Preble Co. Hybrid Seed Corn Association	Mason Montgomery's Sons	R. 1, Eaton
647	6	L	Pickaway	Pickaway Co. Hybrid Corn Growers	Roger Hedges	R. 1, Ashville
648	6	L	Meigs		Southeastern Exp. Farm	Carpenter
649	6	L	Clermont		Clermont Co. Exp. Farm	Batavia
650	6	M	Butler	Butler Co. Hybrid Corn Growers	Johnie H. Baker	R. 6, Hamilton
651	6	M	Highland		Meyers Hybrid Corn Co.	Hillsboro
652	6	M	Fayette	Fayette Co. Seed Improvement Association	Harold C. Mark	R. 2, Washington C. H.
653	6	M	Jackson	Jackson Co. Hybrid Corn Growers	Jackson Co. Infirmary Farm, J. H. Steele, Supt.	R. 1, Jackson
654	6	N	Warren	Warren Co. Hybrid Corn Growers	Albert Goocey	R. 1, Morrow
655	6	N	Ross	Ross Co. Hybrid Corn Growers	Ralph Whaley	Frankfort
656	6	N	Hamilton		Hamilton Co. Exp. Farm	Mt. Healthy
657	7	P	Butler	Butler Co. Hybrid Corn Growers	J. F. Clawson	R. 1, Hamilton
658	7	P	Hamilton		Pope Bros.	R. 2, Harrison
659	7	P	Ross	Ross Co. Hybrid Corn Growers	Wilbur Kidnocker	Chillicothe

*Test discarded because of ununiformity.
†Test not planted.

INDEX OF ENTRIES

L86	(28 × L317) × Hy	7, 8, 10, 12
C88	(WF9 × 40B) (Hy × 07)	5, 7, 10, 12
C90	(WF9 × Os420) (Hy × 07)	10, 11, 12
C92	(WF9 × 38-11) (Hy × 07)	8, 10, 13, 14
L94	(187-2 × 07) (YS66 × L317)	11, 13, 14
C96	(28 × 187-2) (Hy × 07)	7, 10, 13
L98	(28 × L317) (Hy × 07)	7, 12, 13
161	(Os420 × Os426) (51 × 84)	6
1147	(WF9 × Hy) × 28	10
1208	(33 × 40B) × 51A	2
1209	(33 × 65) × 51A	2
1268	(38-11 × 15-6) × LT	12
3013	(51A × 26) (WF9 × Hy)	2
3048	(51A × I205) (40B × L317)	5, 8
3054	(38-11 × 15-6) (07 × U. S. 2)	14
3056	(38-11 × 15-6) (07 × 23R5)	14
3057	(38-11 × 15-6) (40B × L317)	14
3058	(28 × L317) (67A × 38-11)	11, 12, 14
3059	(WF9 × 07) (67A × 38-11)	8
3060	(WF9 × 07) (51A × 40B)	8
3061	(WF9 × 07) (40B × L317)	13
3062	(28 × 187-2) (40B × L317)	11, 13
3063	(65 × WF9) (40B × L317)	11
3069	(U. S. 2 × U. S. 3) (38-11 × 15-6)	14
3070	(Hy × J8-6G) (38-11 × 15-6)	14

Hybrids certified in Ohio:

Ohio C14	(67 × Hy) (51 × 56)	7
Ohio M15	(26 × 51) (A × CC5)	2, 3, 4
Ohio W17	(56 × 4-8) (51 × 84)	3, 4, 5, 6, 9
Ohio K23	(26 × 51) (65 × 84) lot 1	2
Ohio K23	(26 × 51) (65 × 84) lot 2	2, 3, 4
Ohio K35	(26 × Hy) (65 × 02)	2, 3, 4
Ill. 384	(A × Hy) (WF9 × R4)	5
Ill. 960	(R4 × Hy) (540 × L317)	8
Iowa 931	(L289 × CL447) (Os420 × Os426)	2, 3
Iowa 939	(L289 × I205) (Os420 × Os426)	3, 4, 5, 6, 9, 10, 12, 13
Pioneer 311A		9
U. S. 13	(WF9 × 38-11) (Hy × L317)	7, 11, 12, 13, 14
U. S. 44	(187-2 × 4-8) (Hy × 540)	8 to 13, inc.
U. S. 52	(Hy × 67) (4-8 × 540)	10
U. S. 65	(51 × 4-8) (Hy × 540)	4 to 8, inc., 10

Illinois hybrids:		
384	(A × Hy) (WF9 × R4)	5
960	(R4 × Hy) (540 × L317)	8
Indiana hybrids:		
431	(WF9 × Hy) (Os420 × Os426)	6, 8, 10
608C	(WF9 × Hy) (A × Tr)	6, 11, 12
610	(A × L) (WF9 × Hy)	6, 7, 9
813C	(WF9 × Hy) (38-11 × L317)	11
Iowa hybrids:		
306	(WF9 × Os420) (L289 × I205)	9
931	(L289 × CL447) (Os420 × Os426)	2, 3
939	(L289 × I205) (Os420 × Os426)	3, 4, 5, 6, 9, 10, 12, 13
4059	(WF9 × Hy) (L289 × I205)	6, 9
Michigan hybrids:		
22C		5
24B		5
33C		5
U. S. hybrids (yellow):		
13	(WF9 × 38-11) (Hy × L317)	7, 11, 12, 13, 14
44	(187-2 × 4-8) (Hy × 540)	8 to 13, inc.
52	(Hy × 67) (4-8 × 540)	10
65	(51 × 4-8) (Hy × 540)	4 to 8, inc., 10
102	(KYS × U. S. 7) (U. S. 5 × U. S. 6)	14
264	(Hy × J7-2E) (U. S. 2 × U. S. 3)	14
265	(Hy × J8-6G) (U. S. 2 × U. S. 3)	14
282	(J7-2E × J8-6G) (U. S. 2 × U. S. 3)	14
U. S. hybrids (white):		
168	(Ky. 30A × T10B) (Ky. 39A × JC33)	14
360	(11b × JC33) (41 × 43)	14
361	(JC33 × 23) (41 × 43)	14
364	(11b × JC33) (23 × 24)	14
364-1	(11b × JC33) (23 × Mo. 7Ra)	14
Edward J. Funk & Sons, Kentland, Ind.:		
Hoosier-Crost F138 (experimental)		3
Hoosier-Crost F139 (experimental)		8
Hoosier-Crost 668		6
O & M Seed Co., Green Springs, Ohio:		
39		2

TABLE 2.—Test Group A. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Area 1

Experiment No.:	Location:
601A	Austinburg, Ashtabula Co.
602A	Cortland, Trumbull Co.
603A	Canfield, Mahoning Co.
604A	Kent, Summit Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 601A	Exp. 602A	Exp. 603A	Exp. 604A				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio W46	98.3	105.5	81.8	96.8	109.4	71.2	75.1	0.2	1.0
Ohio K24 (lot 1)	97.8	100.4	79.6	102.2	108.8	71.7	75.7	.2	1.2
Ohio K24 (lot 2)	96.7	93.4	83.3	102.0	108.2	71.8	75.0	.5	.8
Ohio K24 (lot 3)	95.6	94.5	84.9	98.5	104.5	72.1	75.6	.5	1.0
Ohio W26 (lot 2)	95.4	97.4	78.4	99.0	106.8	70.6	76.9	.9	1.0
Ohio 1209	95.2	100.9	80.3	95.5	104.3	72.9	75.8	.5	1.4
Ohio 3013	94.9	98.6	81.6	94.6	104.9	72.1	75.2	.2	.5
Ohio W26 (lot 1)	94.9	99.5	79.2	99.4	101.5	70.8	75.3	.2	1.2
Ohio K35	94.1	101.0	76.8	93.4	105.4	72.0	75.5	.0	.7
Ohio M34	91.2	99.4	85.4	87.8	92.1	73.0	73.9	.0	.7
Ohio 1208	89.7	83.3	85.0	93.8	96.8	72.5	74.9	.5	1.1
Ohio K23 (lot 2)	89.3	91.6	77.7	91.6	96.2	71.9	74.8	.0	.5
Ohio K42	89.2	86.9	80.2	95.0	94.8	71.6	74.9	.3	.8
O & M 39	88.1	95.4	74.4	88.0	94.5	70.7	77.6	4.5	3.5
Ohio M20	87.5	86.7	78.2	89.8	95.2	72.4	74.3	.2	2.0
Ohio K23 (lot 1)	86.9	84.2	76.7	92.0	94.8	72.0	74.9	.0	.8
Ohio M15	85.4	88.2	75.1	90.6	87.7	72.5	74.1	.3	1.0
Iowa 931	83.1	90.2	75.4	78.4	88.6	71.7	76.4	.2	4.2
Medina Pride	75.7	77.4	61.8	74.4	89.1	73.6	74.9	7.6	6.2
Yaggi	72.0	73.0	55.2	77.0	82.7	71.4	76.6	5.5	8.2
Significant difference	5.5	7.6	5.6	5.7	10.1	.....	.....	.....	.....

Days from planting to silking taken on Experiments 601A and 602A only.
Lodged and broken plants taken on Experiments 601A and 603A only.
The strain × location interaction is not significant.

TABLE 3.—Test Group B. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Areas 2, 3, and 4

Experiment No.:	Location:
606B	Rowsburg, Ashland Co.
607B	Shiloh, Richland Co.
608B	Wooster, Wayne Co.
609B	Dover, Tuscarawas Co.
610B	West Unity, Williams Co.

Strain	Acre yield						Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 606B	Exp. 607B	Exp. 608B	Exp. 609B	Exp. 610B				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Hoosier-Crost F138 (experimental)	90.4	25.6	114.8*	110.1	99.1	102.6*	72.3	72.1	1.3	8.8
Ohio K64	90.3	30.2	109.9*	111.6	108.8	90.8*	72.8	72.4	.9	9.2
Pioneer 324	89.6	37.4	107.6	104.7	104.6	93.8*	72.2	72.2	3.3	15.1
Ohio W46	88.1	32.4	94.5	108.4	98.6	106.9*	71.6	71.5	2.3	8.4
Iowa 939	88.0	26.1	105.9	99.9	106.8	101.0*	71.0	73.0	2.9	11.2
Ohio W36	86.8	39.8	91.5	106.4	97.6	98.5*	72.4	71.6	5.7	8.2
Ohio K24	86.3	38.0	87.4	107.4	96.3	102.6*	73.1	71.7	3.7	8.6
Ohio W66	86.3	22.6	102.0	108.2	106.4	92.2*	70.6	71.8	1.7	13.6
Ohio W62	85.7	29.8	99.6*	105.5	97.5	96.3*	71.7	73.3	2.4	13.0
Ohio W26	84.7	21.9	103.5*	106.5	95.9	95.7*	71.5	71.7	1.8	12.4
Ohio W17	83.3	27.5	97.0†	110.0	91.0	90.9*	71.5	72.8	4.7	15.8
Ohio K35	82.9	38.1	98.2*	102.1	88.0	88.1*	72.8	71.8	1.0	11.5
Ohio K42	80.4	39.5	87.5	94.5	88.4	92.0*	73.3	71.3	2.6	10.9
Ohio M34	80.2	44.5	83.4	100.6	79.5	92.9*	74.1	71.2	5.3	11.3
Ohio W32	79.8	27.4	88.6	103.0	88.8	91.2*	71.5	73.1	3.4	10.5
Ohio M15	79.7	43.5	84.1	94.5	86.5	90.0*	74.5	70.9	4.8	21.9
Ohio K23	79.3	47.9	81.9	95.3	89.1	82.2*	73.4	71.6	1.7	13.2
Ohio M20	73.1	36.1	70.2	96.3	77.6	85.5*	73.7	70.5	3.8	11.8
Iowa 931	71.3	23.1	92.5	88.5	82.5	69.9*	73.3	71.9	7.0	23.1
Cook	60.5	12.8	76.0	79.6	74.8†	59.4*	72.4	72.1	10.7	15.8
Significant difference	5.8	8.8	12.5	6.5	10.0	10.4	.....	.....	.....	.....

Days from planting to silking taken on Experiments 608B and 609B only.
The strain × location interaction is highly significant.
*Four replications only.
†Three replications only.

TABLE 4.—Test Group C. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Areas 4 and 5

Experiment No.:	Location:
611C	Mt. Vernon, Knox Co.
612C	Rayland, Jefferson Co.
613C	Coshocton, Coshocton Co.
614C	Plain City, Union Co.
615C	Edgerton, Defiance Co.

Strain	Acre yield						Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 611C	Exp. 612C	Exp. 613C	Exp. 614C	Exp. 615C				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C38	94.3	104.9	120.7	104.0	102.2	39.9	71.2	73.2	2.4	9.5
Ohio W66	93.1	108.8	128.0	91.5	94.4	42.9	71.4	72.6	1.0	9.4
Ohio W56	92.3	104.0	122.2	96.5	96.2	42.6	71.8	73.0	.6	5.1
Ohio K64	91.9	105.1	123.6	95.0	96.5	39.5	73.2	71.0	.5	5.3
Ohio W36	90.7	108.4	106.0	96.4	97.5	45.0	73.7	70.0	2.2	9.4
Iowa 939	90.7	98.7	118.5	106.1	89.7	40.5	72.0	71.8	2.0	10.4
Pioneer 324	89.9	102.9	117.6	97.1	90.5	41.1	73.7	71.2	1.8	17.6
Ohio W46	89.9	104.1	118.8	88.1	95.7	43.1	72.2	71.2	.7	6.8
Ohio K24	89.7	104.9	112.3	93.1	92.0	46.4	73.9	69.4	.8	9.7
Ohio W17	89.5	103.1	110.7	94.2	91.4	47.9	72.2	72.4	1.4	16.7
U. S. 65	89.2	97.2	109.4	106.0	94.8	38.6	71.3	75.2	1.0	16.6
Ohio W26	87.9	99.5	114.3	87.7	94.4	43.8	72.5	70.8	.5	12.0
Ohio K35	86.5	98.0	98.4	98.0	90.5	47.8	73.9	70.1	.8	12.4
Ohio C28	86.3	90.5	113.8	85.5	100.9	41.0*	70.7	73.3	1.4	6.0
Ohio M34	83.5	96.4	97.2	85.9	85.8	52.2	75.2	68.6	1.4	11.0
Ohio M15	81.1	93.6	101.0	84.1	81.6	45.4	75.6	69.3	1.6	19.6
Ohio K42	80.1	97.9	104.8	75.3	81.2	41.2	73.3	69.5	1.1	10.0
Ohio M20	79.4	95.3	97.5	73.6	84.1	46.5	74.8	68.8	.8	9.4
Ohio K23	78.6	88.0	94.8	86.0	79.7	44.6	74.4	68.6	.3	12.3
Woodburn	71.0	79.2	94.7	73.0	78.1	30.1	73.7	71.6	10.0	24.4
Significant difference	4.1	4.7	4.6	7.6	6.2	6.8	.....	.....	.....	.....

Days from planting to silking taken on Experiments 614C and 615C only.
Lodged plants taken on Experiments 611C, 612C, 613C, and 615C only.
The strain × location interaction is highly significant.
*Four replications only.

TABLE 5.—Test Group D. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Area 4

Experiment No.:	Location:
616D	Huron, Erie Co.
617D	Nevada, Wyandot Co.
619D	Lima, Allen Co.
620D	Sidney, Shelby Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 616D	Exp. 617D	Exp. 619D	Exp. 620D				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C88	101.4	109.8	107.4	85.1*	103.2	70.5	72.9	19.3	12.0
Pioneer 334	100.4	106.5	108.0	86.7*	100.2	71.7	73.3	11.0	31.2
Ohio W30	97.9	102.3	101.5	83.9*	103.6	72.0	71.1	18.6	9.7
U. S. 65	96.2	104.9	100.5*	76.6*	102.9	73.2	72.5	13.1	27.4
Ohio C65-2	94.9	101.8	94.5	78.9*	104.4	70.6	73.5	15.2	14.2
Ohio W62	94.8	104.7	99.8	78.7*	96.1	73.3	72.1	11.7	23.9
Ohio C65-1	94.5	106.8	98.3	79.9*	93.0	72.9	73.5	11.8	16.1
Ohio W58	93.6	99.5*	100.9	77.3*	96.7	72.9	72.5	15.9	15.1
Illinois 384	93.3	97.5	99.5	85.0*	91.4	72.2	72.2	13.5	17.6
Ohio 3048	92.9	94.0	101.7	80.5*	95.1	72.3	71.1	9.3	18.2
Ohio W36	92.8	99.8	100.1	77.1*	94.0	74.7	69.9	17.7	12.8
Ohio K24	92.1	95.9	95.2	79.3*	97.9	75.1	69.6	10.0	12.7
Iowa 939	90.7	99.0	95.3	74.5*	93.8	73.6	70.6	11.4	27.6
Ohio W54	90.6	93.5	97.9	75.6*	95.4	73.3	70.7	19.0	18.0
Ohio W32	89.2	92.9*	95.9	74.6*	93.4*	74.0	71.7	10.1	20.4
Michigan 22C	87.6	94.2	95.7	76.9*	83.7	73.8	74.1	13.1	37.2
Ohio W17	87.2	93.1	97.3	73.5*	85.0	72.6	72.0	13.1	23.8
Michigan 24B	78.1	80.1	82.4	62.9*	87.0	75.5	68.6	11.2	14.0
Michigan 33C	76.6	79.9	81.9	67.9*	76.8	76.1	66.5	12.6	15.7
Woodburn	73.9	79.1	80.4	60.7*	75.4	75.0	70.1	22.0	30.2
Significant difference	4.2	6.0	7.0	6.4	6.8	.....	.....	.....	.....

The strain × location interaction is not significant.
***Four replications only.**

TABLE 6.—Test Group E. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Areas 2 and 4

Experiment No.:	Location:
621E	New London, Huron Co.
623E	St. Marys, Auglaize Co.
624E	Celina, Mercer Co.
625E	West Liberty, Champaign Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 621E	Exp. 623E	Exp. 624E	Exp. 625E				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C38	92.3	94.0*	83.7	90.8	100.7	72.8	68.8	1.6	19.6
Ohio W54	86.9	92.6*	76.9	86.9	91.2	73.5	66.8	2.0	19.4
Iowa 4059	85.9	92.7	71.0	80.5	99.6	72.6	69.8	1.8	18.1
Ohio W36	85.5	88.3	80.9	82.7	89.9	75.2	67.2	2.0	14.7
Ohio C76	85.9	95.7	70.7	88.9	84.8	70.0	69.8	3.4	11.9
Ohio C28	84.7	88.9	76.2	82.8	90.9	72.4	69.4	.8	18.4
Ohio C48	84.3	90.6*	73.0	85.8	87.9	70.5	70.6	1.6	19.3
Indiana 608C	83.7	88.9	72.6	81.2	92.2	71.7	69.2	1.5	36.9
Ohio W56	82.8	94.6	64.3	84.0	88.4	72.6	68.6	1.6	13.2
Ohio C84	82.3	94.5	70.0	74.4	90.3	71.2	71.8	2.3	22.3
Indiana 431	81.2	80.3*	66.4	80.3	98.0	72.3	69.6	3.1	19.1
Ohio W60	80.5	96.6*	61.2	71.7	92.5	73.8	69.2	1.6	17.0
Indiana 610	79.0	93.2†	57.2	79.1	86.4	71.4	70.2	2.9	24.8
U. S. 65	78.4	83.5	65.2	82.8	81.9	72.9	72.6	5.7	34.0
Ohio W17	78.2	88.7	64.7	75.7	83.6	73.8	69.8	3.4	31.3
Hoosier-Crost 668	78.0	92.5	60.4	73.8	85.3	72.7	68.4	1.7	12.8
Ohio 161	77.9	86.5*	66.1	74.2	84.7	74.6	69.0	5.1	37.5
Iowa 939	76.7	86.4	67.2	75.0	78.3	72.6	69.0	5.8	35.9
Woodburn	64.9	70.9	56.2	61.3	71.3	75.3	68.6	9.6	45.5
Cook	61.2	65.8*	48.7	63.8	66.4	74.9	68.6	4.6	32.7
Significant difference	6.2	8.8	12.4	8.0	13.0	.....	.....	.....	.....

Days from planting to silking taken on Experiment 621E only.
The strain × location interaction is not significant.
*Four replications only.
†Three replications only.

TABLE 7.—Test Group F. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Areas 4 and 5

Experiment No.:	Location:
626F	Tiffin, Seneca Co.
627F	Perrysburg, Wood Co.
628F	Findlay, Hancock Co.
630F	Van Wert, Van Wert Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 626F	Exp. 627F	Exp. 628F	Exp. 630F				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C88	92.1	96.5	68.0*	106.0	97.8	69.3	73.2	5.2	13.9
U. S. 13	90.6	95.2	57.5*	109.9	100.0	69.9	74.9	2.7	26.0
Ohio L98	88.8	98.2	61.9	105.2	89.8	69.0	76.7	5.3	25.1
Ohio C50	88.5	94.7	64.1	100.5	94.8	69.5	73.7	7.2	12.1
Ohio W30	87.9	99.2	62.9	99.9	89.5	71.0	72.6	3.5	18.2
Ohio C80	87.8	98.5	54.2*	104.5	93.8	69.4	74.2	1.5	12.2
Indiana 610	87.2	96.8	60.5	102.7	88.8	70.6	72.3	3.0	25.0
Ohio C76	86.5	97.5	58.2	95.3	95.1	68.9	75.5	2.0	25.9
Ohio C14-3	85.8	97.1*	54.9	95.0	96.2	70.4	74.1	3.5	22.2
Ohio C96	85.1	98.6	59.3	98.8	83.7	69.6	76.2	3.4	19.9
Ohio L86	83.5	100.2	50.1	98.7	84.9	68.5	76.7	1.4	26.4
Ohio L16	83.2	100.1	55.3	92.9	84.6	70.0	76.5	2.7	27.4
Ohio K24	83.0	93.1	64.0*	88.7	86.2	73.4	68.9	1.1	20.7
Ohio W60	80.1	91.5	57.5	87.7	83.8	72.6	73.3	1.4	22.3
U. S. 65	79.7	91.2	52.9*	92.6	82.3	70.9	72.9	2.1	29.1
Ohio C14-2	77.7	89.5*	51.7	85.7	83.9	71.2	73.5	2.0	16.5
Ohio C14	76.5	89.2*	51.3*	84.7	80.7	70.8	73.6	3.7	25.1
Pioneer 317	76.2	88.3	53.1	84.3	79.1	70.8	73.9	3.1	29.5
Ohio C84	75.2	90.6	45.3	81.0	83.8	69.9	76.4	3.0	19.9
Woodburn	59.3	73.4*	42.1	60.9	60.7	73.1	69.0	11.5	31.7
Significant difference	5.1	8.9	6.5	7.0	7.6	.....	.....	.....	.....

Days from planting to silking taken on Experiments 627F and 630F only.
The strain × location interaction is significant.
*Four replications only.

TABLE 8.—Test Group G. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Area 5

Experiment No.:	Location:
631G	Holgate, Henry Co.
632G	Paulding, Paulding Co.
633G	Ottawa, Putnam Co.
634G	Maumee, Lucas Co.
635G	Fremont, Sandusky Co.
660G	Wauseon, Fulton Co.

Strain	Acre yield							Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 631G	Exp. 632G	Exp. 633G	Exp. 634G	Exp. 635G	Exp. 660G				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C12	89.0	57.2	48.4	99.2	118.4	100.7	110.4	71.3	80.9	7.0	14.8
Ohio C92	88.3	53.3	41.1	101.3	117.2	104.1	112.9	70.8	80.4	1.7	13.5
Ohio 3060	87.0	48.6	51.8	101.9	116.6	96.3	106.6	72.9	77.6	.9	10.5
Illinois 960	86.9	50.5	47.6	102.8	115.5	97.3	108.0	71.3	79.8	5.5	30.5
Ohio C38	83.3	50.7	38.5	96.5	117.6	98.6	98.0	72.5	77.8	4.0	15.2
Ohio W58	83.1	51.1	49.1	90.7	110.1	95.9	101.8	73.7	78.1	2.6	15.5
Ohio C82	83.0	53.4	32.8	89.3	117.2†	98.0	107.4	70.9	80.5	1.7	12.3
Ohio W10	82.8	50.8	44.3†	94.1	114.9	93.8	99.0	73.4	78.7	1.9	16.1
Ohio 3059	82.5	50.5	37.0	90.2	112.1	105.9†	99.0	71.3	80.4	.6	9.3
Ohio L86	82.5*	52.1	40.4	86.0	113.3	101.2	.....	70.9*	81.3	1.7*	18.7*
Ohio C65-2	81.9	53.1	42.3	85.4	116.9	92.5	100.7	71.7	79.8	2.5	11.0
Ohio 3048	81.4	48.6	52.4	86.1	112.9	92.0	96.2	73.0	76.4	.7	19.0
Ohio C65-1	81.3	47.0	40.7	85.2	116.4	93.2	105.3†	73.6	79.6	.9	13.1
Ohio C28	78.9	48.0	41.1	78.6	117.1	89.1	99.3	72.9	77.9	1.6	15.8
U. S. 44	78.0	47.7	36.8	84.1	114.2	96.8	88.2‡	72.3	80.0	2.0	24.9
U. S. 65	77.9	47.9	42.0	83.4	108.8	91.3	94.2	73.2	78.9	1.2	28.3
Hoosier-Crost F139 (experimental)	76.9	44.1	34.8†	90.0	105.3	93.8	93.2	74.0	77.3	1.2	15.9
Indiana 431	75.7	39.9	32.3†	84.9	109.8	92.9	94.2†	72.8	78.3	.9	17.9
Ohio W54	75.5	38.0	37.5†	92.3	106.6	81.6	97.0	72.7	77.6	.4	10.4
Woodburn	58.9	26.8	26.0	56.1	79.9	80.5	83.8†	74.6	77.4	11.4	27.3
Significant difference	3.5	6.2	5.6	8.2	6.8	7.0	10.0	.....	.....	.....	.....

Days from planting to silking taken on Experiments 631G, 632G, 633G, and 634G only.
The strain × location interaction is highly significant.
*Adjusted average, since Ohio L86 was not included in Experiment 660G.
†Four replications only.
‡Three replications only.

TABLE 9.—Test Group H. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Areas 4 and 6

Experiment No.:	Location:
636H	St. Clairsville, Belmont Co.
638H	Croton, Licking Co.
639H	Troy, Miami Co.
640H	New Carlisle, Clark Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 636H	Exp. 638H	Exp. 639H	Exp. 640H				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Indiana 610	101.2	109.0	79.6	118.8	97.3	68.1	72.7	1.9	16.2
Ohio C38	101.0	106.4	77.4	116.8	103.2	69.1	71.9	1.3	15.4
Iowa 4059	100.5	98.9	81.8	113.0	108.5	69.3	72.1	.3	14.6
Pioneer 300	100.5	102.9	83.0	114.6	101.4	67.9	74.7	1.7	20.7
Ohio C80	100.2	107.3	78.2	117.1	98.0	67.1	73.9	.7	10.5
Ohio W10	100.0	110.9	76.3	112.4	100.4	68.3	73.0	.5	11.3
Ohio C68	97.8	109.3	76.6	117.5	87.7	68.7	72.2	1.7	11.5
Ohio C48	97.4	97.7	79.2	117.6	94.9	68.0	72.7	1.0	10.8
Ohio W46	97.0	104.2	79.5	108.3	95.9	70.3	71.0	.4	9.6
Ohio W30	96.9	96.7	79.2	111.0	100.6	68.7	72.3	1.0	7.1
Ohio W54	96.0	99.2	80.4	110.4	93.8	69.4	71.7	.4	12.7
Iowa 306	95.5	93.8	76.8	115.5	95.8	70.9	70.7	2.2	14.9
Iowa 939	93.8	94.6	79.3	103.5	97.9	70.9	70.3	3.2	23.1
U. S. 44	92.6	98.2	75.2	104.1	92.9	67.7	74.4	1.9	24.7
Pioneer 311A	92.2	96.8	73.3	108.4	90.1	71.5	73.1	.2	34.4
Ohio W62	92.0	88.8	80.4	102.5	96.1	70.1	72.9	2.7	15.5
Ohio W17	91.8	86.0	74.4	105.8	100.9	70.6	71.8	2.8	22.8
Ohio W60	91.0	99.3	76.5	101.9	86.4	70.1	73.4	1.2	10.7
Ohio W32	87.7	90.2	73.4	103.0	84.0	70.3	72.4	1.4	15.9
Woodburn	70.8	74.8	58.5	84.6*	66.1	71.5	70.3	13.5	23.0
Significant difference	6.1	12.3	7.3	6.4	7.1	.....	.....	.....	.....

Days from planting to silking taken on Experiments 636H and 639H only.
The strain × location interaction is highly significant.
*Four replications only.

TABLE 10.—Test Group K. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Areas 4 and 6

Experiment No.:	Location:
641K	Thornville, Perry Co.
642K	Lancaster, Fairfield Co.
643K	Lockbourne, Franklin Co.
644K	London, Madison Co.
645K	Greenville, Darke Co.

Strain	Acre yield						Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 641K	Exp. 642K	Exp. 643K	Exp. 644K	Exp. 645K				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C76	94.6	62.6	100.5*	86.2	117.9	105.9	68.3	74.5	5.5	17.1
Ohio C12	93.8	56.8	90.5*	92.0	118.0	111.8	69.1	74.9	3.0	15.4
Ohio L86	92.1	61.8	96.1*	76.8	126.1	99.5	68.7	75.1	4.9	20.9
Ohio C96	91.6	57.8	92.5*	85.6	116.2	106.0	71.7	74.2	6.9	18.3
Ohio C44-1	91.4	57.2	94.5*	83.0	116.6	105.6	70.5	74.6	4.2	17.8
Ohio C92	91.3	57.3	90.9*	78.0	119.8	110.5	69.7	73.6	1.5	14.4
Ohio C88	91.2	56.6	83.4*	89.6	115.2	111.3	70.8	72.7	3.3	10.1
Ohio C82	90.5	55.0	89.6*	75.2	122.0	110.6	69.8	73.9	1.1	13.2
Ohio C84	90.0	58.4	88.2*	77.0	120.6	105.9	71.4	73.9	2.6	23.7
Ohio C44-2	88.6	55.8	88.6*	74.3	116.2	108.0	70.7	73.3	3.7	13.7
Ohio C90	87.2	52.6	92.1*	73.4	106.7	111.1	71.2	73.1	2.3	13.7
Indiana 431	86.1	48.1	87.3*	78.4†	114.0	102.5	73.3	71.6	2.7	15.7
U. S. 44	86.0	53.6	94.7*	70.1	107.3	104.2	70.7	75.1	3.4	27.8
Ohio 1147	85.8	60.4	82.3*	76.6	111.8	98.0	73.1	72.0	3.2	11.5
U. S. 65	84.5	59.0	84.4*	76.2	108.5	94.2	73.2	73.0	3.0	34.4
Ohio C50	83.6	52.9	86.2*	72.3*	101.1	105.7	70.5	73.2	3.2	11.8
Pioneer 333	83.3	56.3	75.3*	79.1	112.4	93.3	72.7	72.5	3.8	19.9
Iowa 939	83.0	52.0	78.0*	76.6	113.9	94.4	73.6	71.0	3.3	25.1
U. S. 52	74.4	50.9	65.8*	64.0	99.3	92.1	72.8	74.8	4.3	37.6
Woodburn	69.4	44.2	71.7†	62.9	90.6	77.7	75.8	70.4	9.7	35.0
Significant difference	5.4	6.4	13.4	10.4	9.6	7.2	.....	.....	.....	.....

Days from planting to silking taken on Experiments 641K, 642K, 643K, and 645K only.
Lodged and broken plants taken on Experiments 641K, 643K, 644K, and 645K only.
The strain × location interaction is significant.
*Four replications only.
†Three replications only.

TABLE 11.—Test Group L. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Area 6

Experiment No.:	Location:
646L	Eaton, Preble Co.
647L	Ashville, Pickaway Co.
648L	Carpenter, Meigs Co.
649L	Batavia, Clermont Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 646L	Exp. 647L	Exp. 648L	Exp. 649L				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C12	80.4	86.6	92.8	65.6	76.6	74.3	73.5	2.9	6.1
Ohio 3063	77.5	82.8	90.9	61.2	75.1	75.4	71.1	1.3	9.9
Ohio W58	75.6	89.6	85.4	64.3	63.0	77.7	71.5	3.7	8.1
Ohio L18	75.0	79.8	89.1	62.2	68.8	75.2	75.5	2.9	4.1
Indiana 813C	74.9	83.8	88.8	61.2	65.7	72.5	74.7	3.3	11.0
U. S. 13	74.7	80.1	97.2	61.9	59.6	73.3	74.7	1.7	8.3
Ohio L16	74.0	67.7	87.9	66.2	74.1	74.0	74.7	6.3	9.8
Ohio L94	73.9	71.4	88.3	70.9	64.8	71.0	77.0	6.2	9.6
Ohio C44-2	73.0	74.3	85.9	62.6	69.0	74.6	73.3	1.5	6.0
Ohio 3058	71.9	57.9	91.6	66.5	71.8	74.3	75.6	1.7	12.4
Pioneer 332	71.7	73.9	88.0	65.9	59.0	71.4	75.3	3.0	11.8
Ohio C90	71.2	79.9	80.4	59.9	64.8	75.3	73.9	4.1	7.5
Ohio 3062	70.9	74.3	88.3	59.2	61.7	75.7	73.3	2.2	11.7
Ohio C48	70.8	74.6	86.0	58.7	64.0	74.8	71.0	2.8	9.6
Ohio C44-1	70.4	70.4	79.1	60.8	71.4	74.9	74.8	7.7	6.6
Ohio R22	70.2	69.0	89.9	58.0	64.1	73.6	76.4	2.6	7.4
Ohio C84	69.2	70.2	83.4	58.8	64.5	74.6	73.8	3.6	8.6
Indiana 608C	66.6	80.8	73.9	54.4	57.2	75.0	71.2	3.6	22.2
U. S. 44	63.8	67.6	75.1	55.0	57.6	74.2	74.9	6.1	13.2
Clarage (Eichelberger)	56.0	51.6	69.8	52.0	50.8	73.7	74.3	11.6	17.5
Significant difference	6.3	6.6	7.2	8.1	9.0	.....	.....	.....	.....

The strain × location interaction is highly significant.

TABLE 12.—Test Group M. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Area 6

Experiment No.:	Location:
650M	Hamilton, Butler Co.
651M	Hillsboro, Highland Co.
652M	Washington C. H., Fayette Co.
653M	Jackson, Jackson Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 650 M	Exp. 651M	Exp. 652M	Exp. 653M				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
U. S. 13	98.6	86.7*	90.6	111.5	105.6	73.6	73.4	1.2	12.7
Ohio 1268	97.8	89.5*	89.8	103.9	108.0	70.7	76.4	.8	11.6
Ohio L86	96.4	87.6*	77.7	107.4	113.0	72.2	74.1	2.0	12.2
Ohio W58	96.0	89.8	91.0	103.8	99.5	79.5	70.6	1.5	10.5
Ohio C82	95.7	84.3	76.9	109.1	110.5	75.1	72.5	1.9	13.2
Ohio L16	94.7	79.8*	79.0	106.0	113.9	74.4	74.5	2.2	17.1
Ohio W10	94.6	83.3	82.5	108.8	103.7	75.3	71.3	1.1	10.1
Ohio L98	94.0	86.7	80.8	103.9	104.5	73.0	75.3	2.9	14.5
Ohio C50	92.7	84.5	86.6	101.7	98.1	76.8	72.4	1.6	8.8
Ohio C44-2	92.0	82.0	85.1	102.5	98.3	76.1	72.9	2.7	11.9
Ohio C88	91.7	86.2	80.4	101.4	98.9	75.5	72.1	1.7	8.5
Ohio C44-1	91.7	79.6	78.3	104.1	104.9	75.4	74.0	2.2	14.0
Pioneer 302A	91.2	82.2	77.7	102.5	102.5	75.1	73.1	2.8	19.1
Indiana 608C	91.1	87.2	80.2	97.9	99.0	76.7	70.0	.8	23.7
Ohio W60	90.9	81.1	82.5	106.0	93.9	78.3	71.7	1.2	10.7
Ohio C90	88.7	83.0	74.4	102.8	94.6	75.3	73.2	1.6	9.0
Ohio 3058	87.9	78.4	76.1	93.1	104.0	72.9	75.6	1.7	17.0
U. S. 44	87.7	80.0	78.4	97.5	94.9	75.4	74.5	1.0	19.0
Iowa 939	85.1	78.1	79.3	94.5	88.6	76.9	69.8	2.1	17.2
Clarage (Eichelberger)	74.2	64.9	54.8	91.1*	86.1	73.4	75.3	8.1	24.4
Significant difference	6.3	8.6	12.0	7.8	9.6	.....	.....	.....	.....

The strain × location interaction is not significant.
*Four replications only.

TABLE 13.—Test Group N. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Area 6

Experiment No.:	Location:
654N	Morrow, Warren Co.
655N	Frankfort, Ross Co.
656N	Mt. Healthy, Hamilton Co.

Strain	Acre yield				Dry matter in ears at harvest	Planting to silking	Lodged plants	Broken plants
	Average	Exp. 654N	Exp. 655N	Exp. 656N				
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio 3061	80.4	40.2	98.9	102.0	69.4	75.1	6.2	12.3
U. S. 13	79.0	32.3*	104.0	100.6	67.9	76.6	6.7	19.1
Ohio L98	73.5	47.6*	80.5	92.4	69.0	77.7	31.1	28.3
Ohio C80	72.1	41.5*	83.5	91.3	69.1	75.4	22.7	15.5
Ohio W54	72.0	37.2	88.3	90.4	72.6	71.4	7.8	16.9
Ohio C12	71.8	37.8	82.4	95.2	69.2	76.5	12.4	21.0
Ohio C92	71.2	31.5	87.9	94.4	68.8	76.3	13.9	13.8
Ohio C96	71.0	40.9	81.5	90.7	70.9	75.2	29.3	21.0
Ohio L18	70.9	31.4	84.3	96.8	68.9	78.2	8.9	8.6
Ohio W30	70.5	34.6*	85.0	91.7	70.9	73.9	8.0	13.5
Ohio L94	70.4	34.1	84.7	92.3	69.0	76.9	17.8	24.2
Ohio C65-2	69.4	30.1	80.7	97.3	68.8	75.9	20.4	12.6
Ohio 3062	68.7	42.6	75.9	87.6	70.9	74.4	16.6	26.6
Pioneer 300	67.1	35.0*	80.4	86.0	68.9	76.2	23.2	25.6
Ohio C65-1	65.1	34.8	76.2	84.4	72.3	75.3	15.0	35.0
Ohio R22	62.5	30.4	72.8	84.2	66.7	79.6	18.9	11.6
U. S. 44	62.3	38.8	65.3	82.7	69.9	76.7	29.5	39.9
Iowa 939	61.5	26.9	72.3	85.4	71.9	72.2	24.0	37.5
Purdie Yellow Dent	49.9	18.8	62.1	68.9	69.5	76.1	26.2	34.9
Reid	46.1	17.6	54.4	66.2	66.6	80.1	23.6	29.8
Significant difference	7.8	8.0	13.4	8.9	.....	.....	.....	.....

Days from planting to silking taken on Experiments 654N and 656N only.
Broken plants taken on Experiments 654N and 656N only.
The strain × location interaction is not significant.
*Four replications only.

TABLE 14.—Test Group P. Ohio Cooperative Corn Performance Tests. 1941

Adaptation Area 7

Experiment No.:	Location:
657P	Hamilton, Butler Co.
658P	Harrison, Hamilton Co.
659P	Chillicothe, Ross Co.

Strain	Acre yield				Dry matter in ears at harvest	Lodged plants	Broken plants
	Average	Exp. 657P	Exp. 658P	Exp. 659P			
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Per cent*	*Per cent*
U. S. 265	101.6	114.7	93.0	97.1	69.2	3.7	21.0
Ohio 3056	100.6	109.3	93.4*	99.1	76.6	1.1	9.1
Ohio 3054	99.0	112.0	92.1	92.7	76.6	1.2	19.9
Ohio C92	97.6	107.8	94.5	90.5	77.5	1.2	10.9
U. S. 168 (white)	96.8	111.0	86.6	92.9	73.4	1.4	16.2
Ohio L94	94.8	106.3	91.8	86.2	74.0	1.8	14.3
Ohio 3070	93.6	99.2	93.1	88.4	74.2	1.6	7.3
U. S. 264	93.2	98.8	85.1	95.7	70.2	3.9	15.9
U. S. 282	92.9	103.9	75.5	99.4*	68.7	7.0	12.1
Pioneer 332	91.4	98.5	88.5	87.3	75.1	5.1	17.5
U. S. 13	91.2	96.8	89.0	87.8	76.4	1.1	16.2
Ohio 3057	87.4	102.6	77.6	82.0	76.9	.1	15.2
Ohio 3058	87.4	93.4	83.0	85.7	76.9	.6	22.7
U. S. 361 (white)	86.9	101.1	67.1	92.4	74.0	2.9	10.4
U. S. 102	85.4	98.7	68.0*	89.4*	71.2	2.5	14.1
U. S. 364 (white)	84.8	99.1	57.4	97.8*	70.2	4.4	16.7
Ohio 3069	84.7	95.5	80.8	77.8†	73.2	1.9	17.5
U. S. 360 (white)	81.8	98.6	59.3	87.3	73.4	4.0	10.6
U. S. 364-1 (white)	81.3	98.8	53.6	91.4	70.0	1.6	13.9
White Dent (Kidnocker)	80.8	85.2	65.6	91.6	71.4	6.6	18.4
Significant difference	7.4	11.8	10.6	7.6	.....	.....	.....

The strain × location interaction is highly significant.
*Four replications only.
†Two replications only.

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